

Amendments to the Specification:

Please replace the paragraph beginning at page 5, line 22, with the following rewritten paragraph:

Under such an object, a pattern formation device of the present invention is ~~characterized by comprising~~ comprises a mold for forming a predetermined pattern on a ~~substantially plate-like substrate to be a processing object~~, a heating unit heating the mold, ~~a substrate holding unit holding the substrate~~ an object holding unit holding the processing object, and a press mechanism pressing the mold against the ~~substrate~~ processing object held by the ~~substrate~~ object holding unit.

Please replace the paragraph beginning at page 6, line 3, with the following rewritten paragraph:

In this way, the heated mold is pressed against the ~~substrate~~ processing object by the press mechanism to heat the ~~substrate~~ processing object from the surface area side, and thus a predetermined pattern can be formed on the surface area of the ~~substrate~~ processing object by the mold.

Please replace the paragraph beginning at page 6, line 7, with the following rewritten paragraph:

If the surface area of the ~~substrate~~ processing object is formed of a material having a glass transition temperature, the surface area of the ~~substrate~~ processing object can be softened by heating the ~~substrate~~ processing object to a temperature close to, equal to or higher than the glass transition temperature by the mold. If the surface area of the ~~substrate~~ processing object is formed of a material having no glass transition temperature, the surface area of the ~~substrate~~ processing object can

be softened by heating the mold to a temperature close to, equal to or higher than a temperature at which the material is softened.

Please replace the paragraph beginning at page 6, line 17, with the following rewritten paragraph:

At this time, it is preferable that the substrate processing object held by the substrate object holding unit is kept at the glass transition temperature or lower by a temperature maintaining unit provided in the substrate object holding unit.

Please replace the paragraph beginning at page 6, line 21, with the following rewritten paragraph:

Such a device is especially suitable when a pattern is formed only on the surface area of the substrate processing object with the mold for substrates processing objects such as a silicon wafer, a photonics crystal and a semiconductor electronic circuit substrate, heat of the mold is first transmitted directly to the surface area of the substrate processing object on which the pattern is formed, only areas to be processed are efficiently heated, regions other than the areas to be processed are never unnecessarily heated, and heat can be used effectively.

Please replace the paragraph beginning at page 7, line 3, with the following rewritten paragraph:

The mold is pressed against the substrate processing object by the press mechanism, but the mold may be moved with respect to the substrate processing object in a fixed state, or conversely the substrate processing object may be moved with respect to the mold in a fixed state to press the mold against the substrate processing object.

Please replace the paragraph beginning at page 7, line 8, with the following rewritten paragraph:

It is preferable that the heating unit comprises a controller controlling the temperature of the mold, and control is performed by the controller so that the mold is held at a temperature lower than the glass transition temperature of the substrate processing object in a state in which the mold and the substrate processing object are separated from each other, the mold is held at a temperature close to, equal to or higher than the glass transition temperature of the substrate processing object in a state in which the mold is pressed against the substrate processing object. At this time, it is more preferable that the mold is previously held at a temperature close to, equal to or higher than the glass transition temperature of the substrate processing object in the state in which the mold is pressed against the substrate processing object. In this case, in the state in which the mold and the substrate processing object are separated from each other, heating of the mold is started from a temperature lower than the glass transition temperature of the substrate processing object to a temperature close to, equal to or higher than the glass transition temperature of the substrate processing object in predetermined timing. Unlike this, the present invention does not aggressively preclude a configuration in which the mold is pressed against the substrate processing object, and then preliminary heating of the mold to a temperature close to, equal to or higher than the glass transition temperature of the substrate processing object is started.

Please replace the paragraph beginning at page 8, line 4, with the following rewritten paragraph:

At this time, timing for actuating the heating unit for holding the mold at a temperature close to, equal to or higher than the glass transition temperature of the substrate processing object is not limited as long as the mold is held at a temperature close to or higher than the glass transition temperature of the substrate processing object in a state in which the mold is pressed against the substrate processing object and a pattern is formed.

Please replace the paragraph beginning at page 8, line 11, with the following rewritten paragraph:

Generally, in removing the mold that has formed a pattern on the substrate processing object, the substrate processing object is cooled to fix the pattern. ~~At this time, if~~ In the present invention a cooling unit cooling the mold is further provided, ~~As a result,~~ the pattern area of the substrate processing object can be speedily cooled via the mold. Such a configuration is especially suitable when the mold is continuously pressed against the substrate processing object multiple times.

Please replace the paragraph beginning at page 8, line 18, with the following rewritten paragraph:

The substrate processing object held by the substrate object holding unit may be heated by a substrate processing object heating unit in addition to heating the mold by the heating unit.

Please replace the paragraph beginning at page 8, line 21, with the following rewritten paragraph:

Further, in the press mechanism, the amount of press of the mold against the substrate processing object can be switched in a plurality of levels. In the press

mechanism, heat of the heated mold is transmitted to the substrate processing object when the mold is pressed against the substrate processing object in a first amount of press, and a pattern is formed on the substrate processing object with the mold when the mold is pressed against the substrate processing object in a second amount of press different from the first amount of press.

Please replace the paragraph beginning at page 9, line 3, with the following rewritten paragraph:

The amount of press of the mold against the substrate processing object mentioned herein is an amount of press of the mold (dimension, depth), based on the surface of the substrate processing object, and the first amount of press should only allow heat of the mold to be transmitted to the substrate processing object, and therefore may be at least a dimension allowing the mold to contact the substrate processing object (which may include zero).

Please replace the paragraph beginning at page 9, line 10, with the following rewritten paragraph:

For this purpose, a load applied from the mold to the substrate processing object by the press mechanism, and a movement stroke of the mold relative to the substrate processing object may be controlled.

Please replace the paragraph beginning at page 9, line 13, with the following rewritten paragraph:

~~The present invention may also be considered as a pattern formation device which comprising: a mold for forming a predetermined pattern on a processing object; an object holding unit holding the processing object; a press mechanism~~

~~pressing the mold against the processing object held by the processing object holding unit; and a heating means heating either one of the processing object and the mold which has a heat capacity smaller than the other.~~

~~—In this way, if either one of the processing object and the mold which has a heat capacity smaller than the other is heated, the heating can be performed in a short time.~~

Here, if the mold has a heat capacity smaller than that of the processing object, heating can be performed in a short time by heating the mold.

Please replace the paragraph beginning at page 9, line 24, with the following rewritten paragraph:

Also in a configuration comprising a movement mechanism moving the mold and/or the processing object so that the mold faces a plurality of regions of the processing object held by the object holding unit, ~~it is possible to make the mold smaller than the processing object, and to reduce the heat capacity thereof. In such a case, the heating means heats the mold. In the pattern formation device comprising such a configuration, the mold is moved by the movement mechanism to make the mold face a plurality of regions of the processing object, the mold is pressed against the processing object in each region, whereby pattern transfer with the mold is performed multiple times on one processing object~~ the mold is moved by the movement mechanism to make the mold face a plurality of regions of the processing object, the mold is pressed against the processing object in each region, whereby pattern transfer with the mold is performed multiple times on one processing object.

Please replace the paragraph beginning at page 10, line 13, with the following rewritten paragraph:

In the heating ~~means~~ unit, according to timing for pressing the mold against the processing object by the press mechanism, the temperature of the mold may be varied in a range which is based on a temperature at which the processing object is softened.

Please replace the paragraph beginning at page 10, line 23, with the following rewritten paragraph:

As the heating ~~means~~ unit, a ceramic heater is preferably used in terms of responsivity.

Please replace the paragraph beginning at page 11, line 3, with the following rewritten paragraph:

The present invention may also be considered as a pattern formation method for forming a predetermined pattern on a ~~substrate~~ processing object with a mold. The method ~~is characterized by comprising~~ comprises a step of a heating step of heating a mold to a predetermined temperature based on the glass transition temperature of a ~~substrate~~ processing object, ~~and~~ a pattern forming step of pressing the mold against the ~~substrate~~ processing object to form a pattern-, a cooling step of cooling the mold to a predetermined temperature lower than the glass transition temperature of the processing object after pressing the mold against the processing object, and a mold removing step of separating the cooled mold from the processing object. Particularly, if stamping is performed multiple times on one processing object, a step comprising the heating step, the pattern forming step, the cooling step and the mold removing step is repeatedly carried out for each of a plurality of regions of the processing object.

Please delete the paragraph beginning at page 11, line 10 through line 18, as follows:

~~The method may further include a cooling step of cooling the mold to a predetermined temperature lower than the glass transition temperature of the substrate after pressing the mold against the substrate, and a mold removing step of separating the cooled mold from the substrate. Particularly, if stamping is performed multiple times on one substrate, a step comprising the heating step, the pattern forming step, the cooling step and the mold removing step is repeatedly carried out for each of a plurality of regions of the substrate.~~

Please replace the paragraph beginning at page 11, line 19, with the following rewritten paragraph:

The method may further include a heat transmitting step of transmitting heat of the mold to the substrate processing object prior to the pattern forming step. As a result, the surface area of the substrate processing object receives transmission of heat of the mold, and is heated to a temperature close to the predetermined temperature based on the glass transition temperature and softened. In this state, the pattern forming step is carried out.

Please replace the paragraph beginning at page 12, line 1, with the following rewritten paragraph:

The present invention may be considered as a pattern formation system comprising a pattern formation device forming a predetermined pattern on a ~~substantially plate-like substrate to be a processing object~~, and a feeding device feeding the substrate processing object to the pattern formation device and taking out the same. In this case, the pattern formation device may comprise a mold for

forming a predetermined pattern on ~~the substrate~~ a processing object, a heating unit heating ~~either one of the substrate and the mold, which has a heat capacity smaller than the other, a substrate holding unit holding the substrate, and a press mechanism pressing the mold against the substrate held by the substrate holding unit.~~ an object holding unit holding the processing object, a press mechanism pressing the mold against the processing object held by the object holding unit, and a cooling unit cooling the mold.

Please replace the paragraph beginning at page 12, line 13, with the following rewritten paragraph:

As a result, the ~~substrate~~ processing object is automatically fed to the pattern formation device by the feeding device, whereby pattern formation on a plurality ~~substrates~~ processing objects can be continuously performed.

Please replace the paragraph beginning at page 12, line 17, with the following rewritten paragraph:

A plurality of ~~substrates~~ processing objects may be conveyed one after another by a conveyor or the like, and fed to the pattern formation device by the feeding device, but they may also be conveyed using a magazine containing a plurality of ~~substrates~~ processing objects. In this case, the pattern formation system further comprises a magazine holding unit holding a magazine, and the feeding device takes out ~~substrates~~ processing objects one by one from the magazine held by the magazine holding unit, and feeds the same to the pattern formation device. Further, for improving efficiency, the magazine holding unit can preferably hold a plurality of magazines. In this case, the magazine holding unit may have a configuration in which while the ~~substrate~~ processing object is fed from one

magazine to the pattern formation device by the feeding device, another magazine can be replaced.

Please replace the paragraph beginning at page 13, line 8, with the following rewritten paragraph:

FIG. 2 is a view showing the configuration of ~~a substrate~~ an object holding unit and a mold holding unit;

Please replace the paragraph beginning at page 13, line 10, with the following rewritten paragraph:

FIG. 3 is a sectional view showing the configuration of the ~~substrate~~ object holding unit;

Please replace the paragraph beginning at page 16, line 24, with the following rewritten paragraph:

As shown in FIGS. 2 and 3, the mold holding unit 40 comprises a holding block (~~substrate~~ mold holding unit) 41 having a support surface 41a on the lower surface and holding the mold 100 by the support surface 41a.

Please replace the paragraph beginning at page 17, line 1, with the following rewritten paragraph:

As shown in FIG. 3, the holding block 41 includes a heater (heating unit, ~~heating means~~) 42 heating the mold 100. For the heater 42, for example, so called a ceramic heater formed of a ceramic material such as, for example, aluminum nitride and having a wiring as a heater electrode embedded therein is suitable. In this

holding block 41, the temperature rises when a current is passed from a power supply (not shown) to the heater electrode, and the temperature decreases when the current is shut off. The ceramic heater is a heater responding so quickly that the temperature rises by approximate 1000 degrees in 10 seconds, for example. The supply of a current from a power supply to such a heater electrode is controlled by a controller (not shown).

Please replace the paragraph beginning at page 39, line 11, with the following rewritten paragraph:

According to the present invention, a preheated mold is pressed against a ~~substrate to be a~~ processing object such as substrate to transmit heat of the mold to the surface area of the ~~substrate~~ processing object, and then a pattern is formed on the surface area of the ~~substrate~~ processing object with the mold. As a result, not the entire ~~substrate~~ processing object but the mold having a small heat capacity can be heated to form a pattern, and the pattern can be transferred to the ~~substrate~~ processing object with high efficiency. In this device, use of a costly optical system and the like is not required, thus making it possible to reduce the cost.